WHAT IS CLAIMED IS:

1   1.   A method comprising the steps of:

2   receiving a first data stream, wherein the first data stream includes digital video data;

3   parsing the first data stream using a first data processor to identify a first channel,

4   wherein the first channel is a channel of compressed digital video having a

5   characteristic represented by a first value;

6   receiving data associated with the first channel at a transcoder, wherein the transcoder is

7   dedicated to transcoding video; and

8   generating a representation of the first channel, using the transcoder, wherein the

9   representation of the first channel is a channel of compressed digital video having

10   the characteristic represented by a second value.

2.   The method of claim 1, wherein the step of parsing includes using the first data processor, where the first data processor is a general purpose processor, and the step of receiving data associated with the first channel includes the transcoder being a separate component from the first data processor.

3.   The method of claim 1, wherein the step of generating further includes the steps of:
decompressing the first channel to generate a first intermediate data;
scaling the first channel to generate a second intermediate data; and
compressing the first channel to generate the representation of the first channel.

1   4.   The method of claim 1, wherein the step of generating further includes the steps of:

2   decompressing the first channel to generate a first intermediate data; wherein the first

3   intermediate data is frequency domain data;

4   converting the first intermediate data to a second intermediate data, wherein the second

5   intermediate data is time domain data having the characteristic represented by the

6   first value;

7   converting the second intermediate data to a third intermediate data having the

8   characteristic represented by the second value; and

9   compressing the first channel to generate the representation of the first channel.

1   5.   The method of claim 1 wherein the characteristic is a scale factor.

1   6.   The method of claim 1, wherein:

2   the step of receiving includes receiving the first data stream at a first memory;

3   the step of parsing includes storing the first channel at the first memory; and

4   the step of receiving data associated with the first channel includes accessing the data

5   associated with the first channel from the first memory.

1   7.   The method of claim 1 further including the step of performing error correction and error

2   handling at the first data processor.

1   8.   The method of claim 1, wherein the steps of receiving the first data stream, parsing,

2   receiving data at the transcoder, and generating support a real-time play back of the

3   representation of the first channel.

1   9.   The method of claim 1, wherein the step of receiving data includes receiving data at a

2   transcoder, wherein the transcoder and the first data processor are integrated onto a

3   common substrate.

1   10.   The method of claim 9, wherein the common substrate includes a semiconductor

2   substrate.

1   11.   The method of claim 1 wherein the characteristic is a scale factor.

1   12.   The method of claim 1 wherein the characteristic is a compression factor.

1   13.   An integrated single chip system comprising:

2   a first processor to receive digital video data and provide parsed video data;

3   a second processor coupled to the first processor to access the parsed video data, the

4   second processor including a video transcoder.

1   14.   The system of claim 13, wherein the first processor is a general purpose processor.

1   15.   The system of claim 14, wherein the second processor further includes:

2   a data decompression portion;

3   a scalar; and

4   a data compression portion.

16.   The system of claim 15, wherein the decompression portion includes a portion to perform a frequency domain to a time domain transform.

17.   The system of claim 16, wherein the frequency domain to time domain transform portion is a portion to performs an inverse discrete cosine transform portion.

18.   The system of claim 16, wherein the decompression portion includes a portion to perform a de-quantization of data.

1   19.   The system of claim 16, wherein the decompression portion includes a portion to perform

2   a DeZigZag of data.

1   20.   The system of claim 19, wherein the decompression portion includes a motion

2   compensation portion.

1   21.   The system of claim 16, wherein the decompression portion includes a motion

2   compensation portion.

1   22.   The system of claim 15, wherein the decompression portion includes a motion

2   compensation portion.

1   23.   The system of claim 22, wherein the compression portion includes a motion vector

2   generator.

1   24.   The system of claim 23, wherein the motion vector generator includes a buffered motion

2   predictor.

1   25.   The system of claim 24, wherein the compression portion further includes a portion to

2   perform a time domain to a frequency domain transform.

1   26.   The system of claim 25, wherein the time domain to frequency domain transform portion

2   includes a discrete cosine transform portion.

1   27.   The system of claim 15, wherein the compression portion includes a motion vector

2   generator.

1   28.   The system of claim 25, wherein the motion vector generator includes a buffered motion

2   predictor.

1   29.   The system of claim 13, wherein the second processor is coupled to the first processor

2   through a memory controller and a sequencer.